

REMARKS

The Office Action dated June 15, 2005, has been received and carefully noted. The above amendments and the following remarks are submitted as a full and complete response thereto.

By this amendment, claims 3, 4, 7, 8, 11, and 12 have been canceled, and claims 1, 5 and 9 have been amended. No new matter has been added. Claims 1, 2, 5, 6, 9, and 10 are pending and respectfully submitted for consideration.

Claims 1-12 were rejected under 35 U.S.C. § 102(b) as being anticipated by Murachi et al. (U.S. Patent No. 5,746,989, "Murachi"). As noted above, claims 3, 4, 7, 8, 11, and 12 have been canceled. Claim 2 depends from claim 1, claim 6 depends from claim 5, and claim 10 depends from claim 9. The Applicants traverse the rejection and respectfully submit that claims 1, 2, 5, 6, 9, and 10 recite subject matter that is neither disclosed nor suggested by Murachi.

Claim 1 recites an exhaust gas purification device for an internal-combustion engine. The device comprises a particulate filter disposed in an exhaust system of the engine for trapping particulates contained in the exhaust gas. Timing determining means determine a regeneration timing to remove the particulates trapped by the particulate filter. Intake air amount reducing means reduce an intake air amount to be taken into the internal-combustion engine in response to the determination of the regeneration timing. Combustion maintaining means maintain combustion in the engine in a desired condition in response to reduction of the intake air amount. Heating means heat the particulate filter to regenerate the particulate filter. The device is configured to supply unburned fuel into the exhaust gas when a predetermined time elapses after the

heating means started to be activated.

Claim 5 recites an electronic control unit for an internal-combustion engine having a particulate filter disposed in an exhaust system of the engine for trapping particulates contained in the exhaust gas. The electric control unit is programmed to determine a cleaning timing to remove the particulates trapped by the particulate filter; reduce an intake air amount to be taken into the internal-combustion engine in response to the determination of the cleaning timing; maintain combustion in the engine in a desired condition in response to the reduction of the intake air amount; and heat the particulate filter to clean the particulate filter. The electronic control unit is programmed to supply unburned fuel into the exhaust gas when a predetermined time elapses after the particulate filter started heating.

Claim 9 recites a method for purifying an exhaust gas for an internal-combustion engine having a particulate filter disposed in an exhaust system of the engine for trapping particulates contained in the exhaust gas. The method comprises the steps of determining a cleaning timing to remove the particulates trapped by the particulate filter; reducing an intake air amount to be taken into the internal-combustion engine in response to the determination of the cleaning timing; maintaining combustion in the engine in a desired condition in response to the reduction of the intake air amount; and heating the particulate filter to clean the particulate filter. The unburned fuel is supplied to the exhaust gas when a predetermined time elapses after the particulate filter started heating.

Murachi discloses a method for purifying exhaust gas of a diesel engine. An intake shutter valve 6 is disposed in the intake air passage 2. The intake shutter valve 6

is a type, such as a butterfly valve, which generates low flow resistance when open, and is used for throttling the intake air passage 2 to reduce the amount of intake air during the regenerating operation of the DPF [diesel particulate filter]. By reducing the amount of intake air, temperature of the exhaust gas becomes high, and combustion of the carbon particles in the DPF is facilitated. A control circuit 20 further performs regeneration control of the DPF 7 and NO_x absorbent 9. The electric heater 5a is also used in conjunction with the intake shutter valve 6 to raise the exhaust gas temperature when regenerating operation of the DPF 7 is conducted. The regenerating operation of the NO_x absorbent 9 is conducted at intervals of between ten seconds to several minutes, and the air-fuel ratio of the exhaust gas is maintained at about 13 (a rich air-fuel ratio) for about 0.5 seconds during the regenerating operation.

According to U.S. patent practice, a reference must teach every element of a claim in order to properly anticipate the claim under 35 U.S.C. §102. In addition, “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628,631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “Every element of the claimed invention must be arranged as in the claim. . . . [t]he identical invention must be shown in as complete detail as is contained in the patent claim.” Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236 (Fed. Cir. 1989) (emphasis added).

With respect to claim 1, Murachi fails to disclose or suggest the claimed features of the invention. Claim 1 recites, wherein the device is configured to supply unburned fuel into the exhaust gas when a predetermined time elapses after the heating means

started to be activated. Claim 5 recites that the electronic control unit is programmed to supply unburned fuel into the exhaust gas when a predetermined time elapses after the particulate filter started heating. Claim 9 recites that the unburned fuel is supplied to the exhaust gas when a predetermined time elapses after the particulate filter started heating.

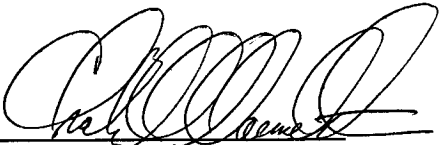
As a result of the claimed invention, when an unburned fuel is applied to the exhaust gas after the heating means is sufficiently heated, the unburned fuel burns efficiently at the exhaust gas purification device to regenerate the particulate filter. In contrast, Murachi fails to disclose or suggest supplying unburned fuel after a predetermined time or elapses after the heating means starts to be activated. As such, Murachi fails to disclose or suggest at least the combination of supplying unburned fuel into the exhaust gas and a predetermined time elapses after the heating means started to be activated, as recited in claim 1, and after the particular filter started heating as recited in claims 5 and 9. Accordingly, Murachi fails to disclose or suggest the claimed features of the invention, as recited in claims 1, 5, and 9. Therefore, it is respectfully submitted that the Applicants' invention, as set forth in claims 1, 5 and 9, is not anticipated within the meaning of 35 U.S.C. § 102.

As claims 2 depends from claim 1, claim 6 depends from claim 5, and claim 10 depends from claim 9, the Applicants respectfully submit that each of these claims incorporate the patentable aspects thereof, and are therefore allowable for at least same reasons as discussed above. Accordingly, the Applicants respectfully request withdrawal of the rejections, allowance of claims 1, 2, 5, 6, 9, and 10, and the prompt issuance of a Notice of Allowability.

Should the Examiner believe anything further is desirable in order to place this application in better condition for allowance, the Examiner is requested to contact the undersigned at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, **referencing Attorney Dkt. No. 108426-00043.**

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Rhonda L. Barton', is written over a horizontal line.

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